

REMARKSInterview request

Applicant respectfully requests a telephonic interview after the Examiner has reviewed this response and amendment. Applicant requests the Examiner call Applicants' representative at telephone number (858) 248-0178.

Claim status; basis for claim amendments and new claims

Applicant herein cancels claims 3, 88-124, 127, 129-143, and 147 without prejudice or disclaimer, amends claims 1 and 4-8, and introduces new claims 148 and 149. The amendments and new claims find basis in the claims as originally filed and in the specification throughout. Representative basis is on page 42, lines 21-23, page 44, lines 17-19, page 65, lines 15-17, page 67, lines 3-8 and page 67, lines 11-13 of the specification and original claims 64, and 66-71, for example. Accordingly, no prohibited new matter is introduced by entry of the amendments and new claims herein.

Summary of outstanding claim rejections

The Office rejected claims in the outstanding action for alleged indefiniteness, omission of steps, lack of enablement, and obviousness, which are summarized hereafter:

- i. Claims 9-11, 31-34, 95, 96, 101 and 102 were rejected under 35 U.S.C. 112, second paragraph for alleged indefiniteness;
- ii. Claims 1-54, 58-76, 88-123, 128, 145 and 146 were rejected under 35 U.S.C. 112, second paragraph for allegedly being incomplete for omitting steps;
- iii. Claims 1-54, 58-76, 88-123, 128, 145 and 146 were rejected under 35 U.S.C. 112, first paragraph for alleged lack of enablement;
- iv. Claims 124, 127 and 147 were rejected under 35 U.S.C. 103(e) for alleged obviousness over Koster and Cantor; and
- v. Claims 139-141 were rejected under 35 U.S.C. 103(a) for alleged obviousness over Koster in view of Cantor and in further view of Sanghvi.

The claim amendments and new claims herein are introduced solely to expedite prosecution without prejudice or disclaimer of any previously claimed subject matter.

Applicant has not dedicated or abandoned any unclaimed subject matter and has not acquiesced to any rejections or objections made by the Office by introducing the amendments and new claims herein. Applicant expressly reserves the right to pursue prosecution of any presently excluded or cancelled subject matter or embodiments in one or more future continuing patent applications.

Rejection for alleged indefiniteness

Claims 9-11, 31-34, 95, 96, 101 and 102 were rejected under 35 U.S.C. 112, second paragraph for alleged indefiniteness. The rejection respectfully is traversed in its entirety, including all reasons and rationale for the rejection. Claims 95, 96, 101 and 102 have been cancelled herein. Accordingly, the rejections under 35 U.S.C. 112, second paragraph are moot with regards to the cancelled claims 95, 96, 101 and 102. The Office states on page 2 of the action that, "claim 1 recites 'consisting of' language" and that "depending claims reciting 'further comprising' language is indefinite."

Independent claim 1 has been amended to include the language "comprising." Basis for this amendment can be found in original claim 1. Applicant respectfully submits that the rejection is inapplicable to the claims herein and asks for withdrawal of the rejection.

Rejection for allegedly being incomplete

Claims 1-54, 58-76, 88-123, 128, 145 and 146 were rejected under 35 U.S.C. 112, second paragraph for allegedly being incomplete for omitting steps. The rejection respectfully is traversed in its entirety, including all reasons and rationale for the rejection. The rejections under 35 U.S.C. 112, second paragraph are moot with regards to the cancelled claims 88-123. The Office states on page 3 of the action that "[i]n claim 1, there should be for example, a step of dissociation of the hybridized nucleic acids. Additionally, how do you determine the molecular weights of the hybridized nucleic acids[?]"

Claim 1 has been amended to include "releasing the nucleic acid fragments hybridized to the probes, thereby producing released fragments," "generating mass signals of the released fragments by mass spectrometry," and "performing a comparison of the mass signals to known reference mass signals." Support for these

features can be found throughout the instant application (e.g. original claims 64, 66-71 and on page 44, lines 17-19 and page 65, lines 15-17 of the specification).

As claims 2, 4-54, 58-76, 128, 145 and 146 depend from claim 1, the rejection is inapplicable to the claims herein.

Rejection for alleged lack of enablement

Claims 1-54, 58-76, 88-123, 128, 145 and 146 were rejected under 35 U.S.C. 112, first paragraph for alleged lack of enablement. The rejection respectfully is traversed in its entirety, including all reasons and rationale for the rejection. The rejections under 35 U.S.C. 112, first paragraph are moot with regards to the cancelled claims 88-123. The Office states on page 4 of the action that “[t]he claim as written does not require a known standard for comparison. The claim as written recites consisting of language and fails to recite all of the necessary elements needed to execute the method.”

Claim 1 has been amended to include “comprising,” “generating mass signals of the released fragments by mass spectrometry,” and “performing a comparison of the mass signals to known reference mass signals.” Support for these features can be found throughout the instant application (e.g. original claims 64, 66-71 and on page 44, lines 17-19 of the specification).

Applicant's specification describes methods for comparing lengths of DNA to a ladder to determine a sequence where “DNA sequencing is best served by enzymes that produce average fragment lengths comparable to the lengths of DNA sequencing ladders analyzable by mass spectrometry” (for example, Example 1 at page 42, lines 21-23 and page 44, lines 17-19). Furthermore, Applicant's specification also discusses “[c]omparison of the mass differences measured between fragments with the known masses of each nucleotide the nucleic acid sequence can be determined” (for example, Example 15 at page 65, lines 15-17).

Thus, claim 1 includes all elements for determining a sequence based on comparison to a reference. Accordingly, the outstanding rejections for alleged lack of enablement are inapplicable to claims 1-54, 58-76, 128, 145 and 146 recited herein.

Applicant therefore requests withdrawal of outstanding rejections under 35 U.S.C. 112, first paragraph.

Rejection for alleged obviousness

Claims 124, 127 and 147 were rejected under 35 U.S.C. 103(a) for alleged obviousness over Koster and Cantor and claims 139-141 were rejected under 35 U.S.C. 103(a) for alleged obviousness over Koster in view of Cantor and in further view of Sanghvi. The rejection respectfully is traversed in its entirety, including all reasons and rationale for the rejection, and Applicant submits that the rejection is inapplicable to the claims herein.

The rejections under 35 U.S.C. 103(a) are moot with regards to the cancelled claims 124, 127, 139-141 and 147. Applicant therefore requests withdrawal of outstanding rejections.

CONCLUSIONS

In view of the foregoing amendments and remarks, Applicant respectfully submits that the Office can properly withdraw the outstanding claim rejections and that the pending claims herein are in condition for allowance. Applicant therefore respectfully requests that the Office withdraw the outstanding claim rejections and issue a notice of allowance.

Applicant has requested a telephone conference with the undersigned representative to expedite prosecution of this patent application. Applicant's representative can be contacted by telephone at (858) 248-0178.

In the unlikely event a fee calculation document or other pertinent document is separated from this submission and the Office determines that an extension and/or other relief is required, Applicant petitions for any required relief, including extensions of time, and authorizes the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. **50-3473**.

Respectfully submitted,

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